WHAT IS CLAIMED IS:

1. A vehicle air conditioner comprising:

a front air conditioning means for blowing conditioned air toward a front space covering a front seat in a passenger compartment of a vehicle;

a rear air conditioning means for blowing conditioned air toward a rear space covering a rear seat in the passenger compartment;

an air conditioning load sensing means for detecting load values corresponding to a plurality of air conditioning load factors in the vehicle;

a front air conditioning control means for determining a blowout condition of the conditioned air from the front air conditioning means based on the load values; and

a rear air conditioning control means for determining a blowout condition of the conditioned air from the rear air conditioning means based on the load values;

wherein one of the front air conditioning control means and the rear air conditioning control means determines the correspondent blowout condition by means of a non-linear model that represents a relation between the air conditioning load factors and a target blowout condition, and

the other determines the correspondent blowout condition by means of a linear model that represents a relation between the air conditioning load factors and a target blowout condition.

2. The vehicle air conditioner according to Claim 1, wherein the non-linear model is a neural network that the relation between the air conditioning load factors and the target blowout condition is learned by training data.

3. The vehicle air conditioner according to Claim 1, wherein the front air conditioning control means determines the blowout condition of the conditioned air from the front air conditioning means by means of the non-linear model, and the rear air conditioning control means determines the blowout condition of the conditioned air from the rear air conditioning means by means of the linear model.

4. The vehicle air conditioner according to Claim 3, wherein the front air conditioning means independently adjust a blowout temperature of conditioned air blown into a driver side space of the front space and a blowout temperature of conditioned air blown into a front passenger side space of the front space, and

the front air conditioning control means independently controls the blowout temperatures of the conditioned air blown from the front air conditioning means into the driver side space and the conditioned air blown from the front air conditioning means into the front passenger side space.

5. The vehicle air conditioner according to claim 3, wherein the rear seat has at least two rows of seats.